2,2,4-Trimethylpentane-1,3-diol - Comments of Environmental Defense

(Submitted via Internet 8/16/02

[NOTE : EPA's HPV web site did not list a company contact, therefore these comments have not been submitted directly to the sponsor]

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for 2,2,4-Trimethylpentane-1,3-diol.

2,2,4-Trimethylpentane-1,3-diol (TMPD) was sponsored by Eastman Chemical Company. It is used as an intermediate in the manufacture of polymer resins and as a key ingredient in the preparation of some fiberglass products. Based on information provided by the sponsor, the opportunity for environmental releases appears low.

TMPD is relatively non-toxic and several available studies are summarized in the robust summaries. The sponsor contends that no new testing is required. However, we have some problems with the quality of the data on which this contention is based.

1. The centerpiece of the mammalian toxicity dataset is a repeat dose-study, which was conducted in 1967 and was pre-GLP. We note two significant problems with this study. First, the purity of TMPD used in this study is unknown. There are numerous examples in the toxicological literature where the use of impure chemicals has caused dramatic under- or over-estimations of toxicity for a given chemical. Unless the sponsor can provide additional data or information on the likelihood that the test chemical was pure, then the sponsor should redo the repeat-dose study. Second, the robust summary for the repeat-dose study states that selected organs were examined for histological analysis but no information was supplied on which organs were analyzed nor was there any rationale for the priority selection of organs for evaluation. Unless the sponsor can provide additional information about which organs were analyzed and why, the sponsor should redo the repeat-dose study.

2. The robust summary for the three-generation developmental/reproductive study states that it was conducted in 1974. However, it appears that the rats used in the study were taken from the 1967 repeat dose study. The sponsor needs to explain the time discrepancy. As with the repeat-dose study, the purity of the test substance is not indicated, which similarly raises questions regarding the adequacy of this study.

3. The sponsor states a NOAEL of 1% TMPD in the diet for the reproductive/ developmental toxicity study. However, mortality rates for each of the three generations were significantly higher than the control group. This effect cannot be attributed to maternal toxicity so the study cannot conclude that a NOAEL was achieved since only one dose group (1%) and controls were used in the study. Although such information would be quite useful, if it is not available re-testing is not needed for purposes of the HPV program.

All other endpoints for mammalian and ecological toxicity appear to have data adequate for the HPV Challenge Program.

Thank you for this opportunity to comment.

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